

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A semiconductor device having a pixel matrix circuit that includes a pixel TFT and a storage capacitor, ~~characterized in that:~~ comprising:

the pixel TFT has a channel formation region formed above a first wiring line through an insulating layer, and has a low concentration impurity region that is in contact with the channel formation region and overlaps the first wiring line; and

the storage capacitor is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from a part of the insulating layer.

B1 2. (Currently Amended) A semiconductor device having a plurality of pixels which include a pixel TFT and a storage capacitor, ~~characterized in that:~~ comprising:

the pixel TFT has a channel formation region formed above a first wiring line ~~through~~ with a first insulating layer and a second insulating layer interposed between the channel formation region and the first wiring, and has a low concentration impurity region that is in contact with the channel formation region and overlaps the first wiring line; and

the storage capacitor is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from the first insulating layer.

3. (Currently Amended) A semiconductor device having a plurality of pixels which include a pixel TFT and a storage capacitor, ~~characterized in that:~~ comprising:

the pixel TFT has a channel formation region formed above a first wiring line ~~through~~ with a first insulating layer, a second insulating layer, and a silicon

oxide film interposed between the channel formation region and the first wiring, and has a low concentration impurity region that is in contact with the channel formation region and overlaps the first wiring line; and

the storage capacitor is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from a laminate of the first insulating layer and the silicon oxide film.

4. (Currently amended) A semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the first wiring line is appropriately a conductive film mainly containing an element selected from the group consisting of tantalum (Ta), chromium (Cr), titanium (Ti), tungsten (W), molybdenum (Mo), and silicon (Si), or an alloy film or silicide film containing the above elements in combination, or a laminate of the conductive films, the alloy films, or the silicide films.

5. (Currently amended) The semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the channel formation region of the pixel TFT and the semiconductor region of the storage capacitor are formed of the same semiconductor layer.

6. (Currently amended) A semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the first insulating layer is appropriately an oxide or halogenated compound containing an element selected from the group consisting of tantalum (Ta), titanium (Ti), barium (Ba), hafnium (Hf), bismuth (Bi), tungsten (W), thorium (Th), and lead (Pb).

7. (Currently Amended) A semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the first wiring line is in floating state.

8. (Currently amended) A semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the first wiring line is kept at the lowest power supply electric potential.

9. (Currently amended) A semiconductor device according to any one of claims 1 to 3, ~~characterized in that~~ wherein the pixel TFT is connected to the source wiring line and the gate wiring line, and the storage capacitor is formed under the source wiring line and/or the gate wiring line.

10. (Currently Amended) A semiconductor device having a pixel matrix circuit and a driver circuit that are formed on the same substrate, ~~characterized in that:~~ comprising:

B¹
a pixel TFT included in the pixel matrix circuit and an n-channel TFT included in the driver circuit each have a channel formation region formed above a first wiring line through an insulating layer, and each have a low concentration impurity region that is in contact with the channel formation region and overlaps the first wiring line;

a storage capacitor included in the pixel matrix circuit is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from a part of the insulating layer; and

the first wiring line connected to the pixel TFT is kept at the lowest power supply electric potential, and the first wiring line connected to the n-channel TFT is kept at the same level of electric potential as a gate electrode of the n-channel TFT.

11. (Currently Amended) A semiconductor device having a pixel matrix circuit and a driver circuit that are formed on the same substrate, ~~characterized in that:~~ comprising:

a pixel TFT included in the pixel matrix circuit and an n-channel TFT included in the driver circuit each have a channel formation region formed above a first wiring line ~~through~~ with a first insulating layer and a second insulating layer interposed between the channel formation region and the first wiring, and each have a low concentration impurity region

that is in contact with the channel formation region and overlaps the first wiring line;

a storage capacitor included in the pixel matrix circuit is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from the first insulating layer; and

the first wiring line connected to the pixel TFT is kept at the lowest power supply electric potential, and the first wiring line connected to the n-channel TFT is kept at the same level of electric potential as a gate electrode of the n-channel TFT.

12. (Currently Amended) A semiconductor device having a pixel matrix circuit and a driver circuit that are formed on the same substrate, ~~characterized in that:~~ comprising:

a pixel TFT included in the pixel matrix circuit and an n-channel TFT included in the driver circuit each have a channel formation region formed above a first wiring line ~~through~~ with a first insulating layer, a second insulating layer, and a silicon oxide film interposed between the channel formation region and the first wiring, and each have a low concentration impurity region that is in contact with the channel formation region and overlaps the first wiring line;

a storage capacitor included in the pixel matrix circuit is formed from a capacitor wiring line formed on the same layer as the first wiring line, from a semiconductor region that has the same composition as the channel formation region or the low concentration impurity region, and from a laminate of the first insulating layer and the silicon oxide film; and

the first wiring line connected to the pixel TFT is kept at the lowest power supply electric potential, and the first wiring line connected to the n-channel TFT is kept at the same level of electric potential as a gate electrode of the n-channel TFT.

13. (Currently amended) A semiconductor device according to any one of claims 10 to 12, ~~characterized in that~~ wherein the first wiring line is appropriately a conductive film mainly containing an element selected from the group consisting of tantalum (Ta), chromium (Cr), titanium (Ti), tungsten (W), molybdenum (Mo), and silicon (Si), or an alloy film or silicide film containing the above elements in combination, or a laminate of the conductive films, the alloy films, or the silicide films.

B 1
14. (Currently amended) The semiconductor device according to any one of claims 10 to 12, ~~characterized in that~~ wherein the channel formation region of the pixel TFT and the semiconductor region of the storage capacitor are formed of the same semiconductor layer.

15. (Currently amended) A semiconductor device according to any one of claims 10 to 12, ~~characterized in that~~ wherein the first insulating layer is appropriately an oxide or halogenated compound containing an element selected from the group consisting of tantalum (Ta), titanium (Ti), barium (Ba), hafnium (Hf), bismuth (Bi), tungsten (W), thorium (Th), thallium (Tl), and lead (Pb).

16. (Currently amended) A semiconductor device according to any one of claims 10 to 12, ~~characterized in that~~ wherein the pixel TFT is connected to the source wiring line and the gate wiring line, and the storage capacitor is formed under the source wiring line and/or the gate wiring line.

17. (Currently amended) A semiconductor device, ~~characterized in that~~
wherein the semiconductor device according to any one of claims 1 to 16 is an
active matrix liquid crystal display or an active matrix EL display.

B¹
18. (Currently amended) A semiconductor device, ~~characterized in that~~
wherein the semiconductor device according to any one of claims 1 to 16 is a video
camera, a digital camera, a projector, a projection TV, a goggle type display, an
automobile navigation system, a personal computer, or a portable information
terminal.
